TEXTILE TECHNOLOGY DIGEST

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Abstracts

[1461]

FIBERS A

ATLAS OF BLENDS. Karl Leyerer. W. Sidler Textile Publishers. In German. Available in the United States from Stellite American Corp., 60 East 42nd St., New York 17, N.Y. Price $110.00. Through *Textile Ind. 118:* 178 (Jan. 1954).

Contains 3200 original wool blends for woolen and worsted mills, grouped by color shades and tints, with their structure, including exact mixture percentages. Consists of seven volumes and one volume of prescriptions.

Elongation mechanism of hair. Part 2

W. Fuhrmann. *Melliand Textilber. 34:* 1022-1025 (November, 1953); *in German.*

The structural model developed by the author and described in *Melliand Textilber. 33:* 912 (1952) has proved valuable for the evaluation and illustrative representation of all processes in the load-elongation diagram. In part 2 of his paper, the author gives an example for the application of the structural model, including the action of thioglycolic acid upon human hair. The results of these investigations will also have a bearing on processes in the textile industry. 9 references.

Man-made fiber data sheets. Part 1

Paul A. Koch. *Modern Textiles Mag. 35:* 36, 42-46 (January, 1954).

Reference data sheets for the world's known fibers are presented. The series includes material on fiber identification and a bibliography for each fiber. The data sheets appeared previously in German in *Zeitschrift fur die gesamte Textil Industrie 54:* 622-626 (July, 1952).

Whys and wherefores of blends

J. B. Goldberg. *Can. Textile J. 71:* 66-73 (January 15, 1954).

A general review.

[1462]

Natural Fibers A 1

The alteration of wool at the different processing stages

G. Mazingue, P. Outreman and M. Van Oberbeke. *Bull. Inst. Textile France No. 41:* 11-19 (August, 1953); *in French.*

This study shows that the method of investigation permits differentiating alterations occurring during wool processing. Moreover, it shows that the alterations caused by dyeing depend on the treatments to which the wool has previously been submitted.

Cotton and the synthetic fibers

George S. Buck, Jr. (National Cotton Council). *Papers Am. Assoc. Textile Technol. 9:* 9-18 (December, 1953).

Specialized cottons through chemical modification will allow cotton to compete with the specialized synthetics. Inter-fiber competition is analyzed.

Cotton yarn structure. Part 4. The strength of twisted yarn elements in relation to the properties of the constituent fibres

J. Gregory. *J. Textile Inst. 44:* T499-T514 (November, 1953).

Also in *Shirley Institute Memoirs.* See abstract *Textile Technology Digest 10:* 1366 (September, 1953).

Cotton yarn structure. Part 5. The relation between strength measurements made on fibres, fibre bundles, yarns, and cloth

J. Gregory. *J. Textile Inst. 44:* T515-T533 (November, 1953).

Also in *Shirley Institute Memoirs.* See abstract *Textile Technology Digest 10:* 1366 (September, 1953).

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Does point buying solve blending problem? No!

J. D. Barrentine and J. A. Ladebauche (Jones, Gardner & Beal, Inc.). *Textile Ind. 118:* 128-129 (January, 1954).

Variations in cotton will not necessarily follow identical patterns each year. A close study of weather conditions prevailing during the growing season and an early ginnings testing program can throw light on this subject. Every bale should be tested by Micronaire and the mix made up to have the same average day after day.

Here are the facts on the 1953 cotton crop

John M. Cook (U. S. Dept. of Agriculture). *Textile World 104:* 88-89, 194-196 (January, 1954).

Fiber and spinning tests on 1953 cotton are summarized. Compared with the 1952 crop, 1953 shows lower fiber strength, finer fiber fineness, higher yarn strength, and lower yarn appearance.

Investigations on the chemical reactions in retting of flax stems

M. Luedtke. *Melliand Textilber. (English ed.) 34, No. 2:* 114 (1953).

A brief account of a study of water retting, or hot water or steam treating, flax fiber and chaff.

Mechanical properties of cotton fibers. Part 3. Effect of alkali hydroxide on fibers under tension

E. L. Nimer, J. A. Lasater and H. Eyring (University of Utah). *Textile Research J. 23:* 629-639 (September, 1953).

Alkali hydroxide solutions acting on cotton fibers under axial tension cause structural changes, as shown by the modified mechanical properties of the fiber. Relaxation curves were measured and interpreted for the respective reactions of sodium, potassium, and lithium hydroxide solutions. The effects of these reagents on cotton fibers were of added interest as the experimental conditions were similar to those achieved during the mercerization of cotton. Parts 1 and 2 appeared in the April and July, 1953, issues of *Textile Research Journal.* 9 references.

Methods of preparing kenaf

C. G. Hof. *Melliand Textilber. (English ed.) 34, No. 2:* 112 (1953).

Possible chemical and mechanical methods for processing kenaf fibers are discussed.

Notes on wool shrinkage

Textile Mfr. 79: 643-646 (December, 1953).

A general review of wool shrinkage. References to the literature are given throughout the text.

Progress of the Mexican kenaf industry

Simon Elliot (Kenaf De Mexico, S.A.). *Textile Quart. 3, No. 4:* 243-246 (1953).

Ramie. Part 2

Bruno Luniak. *Textile Quart. 3, No. 4:* 248-255 (1953).

Ramie cultivation, with particular reference to Florida.

Textile fibre properties. Part 11. Chemical composition of cotton

A. J. Hall. *Textile Merc. 129:* 1175-1176 (December 11, 1953).

The reactivity of the hydroxyl groups of cellulose towards ethylene oxide to form cellulose hydroxyethyl ethers and towards chloroacetic acid to form carboxymethylcellulose is discussed. The properties and textile uses of these cellulose ethers are described. References to the literature are included.

Textile fibre properties. Part 12. Cyanoethyl cellulose ethers

A. J. Hall. *Textile Merc. 129:* 1234-1235 (December 18, 1953).

The cyanoethylation of cellulose with acrylonitrile and the textile uses of the cyanoethyl cellulose ethers are discussed.

Textile fibre properties. Part 13. Internal structure of cotton fibres

A. J. Hall. *Textile Merc. 129:* 1258-1260 (December 25, 1953).

Fibril structure, crystalline and amorphous regions, and the effects of crystallinity on cotton properties are discussed.

The wool fiber epicuticle

M. Leveau. A. Parisot and J. Derminot. *Bull. Inst. Textile France No. 41:* 7-9 (August, 1953); *in French.*

The controlled action of sodium sulfide, avoiding any agitation, permits isolation of tubular membranes the size of several scales and showing the characteristics of the epicuticle.

Artificial fibers A 2

Coloray spun dyed rayon staple

Courtaulds Ltd. *Papers Am. Assoc. Textile Technol. 9:* 34-48 (December, 1953).

Advantages and uses of Coloray spun dyed

rayon staple, by Robert S. Greenwood, p. 34-38; *Techniques of using Coloray,* by Geoffrey V. Lund, p. 39-42; *Fastness properties of Coloray,* by C. P. Tattersfield, p. 43-46; *Discussion,* p. 46-48.

Fibrolane

Textile Wkly. 52: 1731-1735 (December 4, 1953).

Courtaulds' white regenerated protein staple fiber. Properties and uses are discussed. Also reported in *Textile Merc. 129:* 1117-1118, 1148, 1149 (December 4, 1953).

Fibrolane protein fibre

Courtaulds Ltd. *Brit. Rayon & Silk J. 30:* 54-56 (December, 1953).

Fabric development report on Fibrolane blends.

Grilon

H. Keller. *Textil-Rundschau 8:* 410-414 (August, 1953). Through *J. Soc. Dyers Colourists 69:* 468 (November, 1953).

Grilon is a polyamide fiber based on poly-e-caprolactam and prepared by conventional methods by Fibron AG., Dormat/Ems. Two types are marketed: normal (4.5-5.5g./denier, 20-26% extension at break) and high tenacity (6-7g./denier, 15-18% extension at break). On being wetted, Grilon preserves 85-90% of its strength. Elastic recovery is almost complete up to 1-1.5g./denier, but 0.1 g./denier should not be exceeded during processing to avoid faults due to cockling because of the good recovery from stress. Regain is 4.2-4.5% at 20°C. and 65% R.H. Its m.p. is 215°C. and it becomes plastic above 165°C. Heat resistance is relatively good below 130°C. The density of Grilon is 1.13 g./c.c. It is essentially similar to other polyamide fibers.

Method and apparatus for producing fibers

Charles J. Stalego (to Owens-Corning Fiberglas Corp.). USP 2 663 903, December 29, 1953.

Apparatus and process for producing glass fibers, in which glass is introduced to a gaseous chamber where it is melted and forced through outlet openings.

Method for producing glass fibers and bonded mat

Dominick Labino (to Glass Fibers, Inc.). USP 2 663 906, December 29, 1953.

A method in which glass filaments are subjected to a high velocity gaseous blast which attenuates the filament into uniform staple fibers of microscopic fineness.

The setting of thermo-plastic fibres

Emile B. Bates. *Fibres 14:* 417-418 (December, 1953).

General survey of the physical characteristics of thermo-plastic fibers and the problems involved in their setting.

Some books on the manufacture and processing of rayon and nylon

J.T.F.A. Nicaise. *Enka Breda Rayon Rev. 7:* 196-205 (November, 1953); *in Dutch.*

A list with 39 titles and a table have been compiled surveying the books on rayon and nylon published since 1945.

Stretch spinning of acetate rayon. Part 4

R. W. Moncrieff. *Skinner's Silk and Rayon Record 27:* 1395-1396 (December, 1953).

YARN PRODUCTION B

Developments in processing man-made filament yarns

H. Marsden (Universal Winding Company). *Brit. Rayon & Silk J. 30:* 57-62 (December, 1953).

Processing systems and equipment for continuous filament yarns are described. Also reported in *Textile Weekly 52:* 1909-1914 (December 18, 1953); in *Textile Merc. 129:* 1167-1170 (December 11, 1953) and 1216-1219 (December 18, 1953); and in *Fibres 14:* 419-422 (December, 1953).

Enkalon fibre in cotton spinning

J. A. Keverling Buisman. *Enka Breda Rayon Rev. 7:* 194-195 (November, 1953); *in Dutch.*

In this article the results are given of a number of experiments with blends of cotton-type Enkalon fiber and Fibrenka. The fields of application are discussed.

Experiments in spinning, weaving, and finishing of green kenaf

Guenther Krebs. *Melliand Textilber. (English ed.) 34, No. 2:* 114,116 (1953).

Attempts were made to find a method of "green processing," i. e. production of the fiber from the stem without retting. A treatment was devised to free the fiber from excess vegetable gum after weaving the fabric. Normally, such treatment is applied between roving and finished yarn.

Innovations in flyer spinning

Hans Ebert. *Melliand Textilber. 34:* 1031-1033 (November, 1953); *in German.*

The author discusses some innovations placed on the market in recent years for opening and carding rooms, and also for drawing frames, flyer frames, and ring spinning frames. 44 references.

New machines for processing long-stapled fibres

M. Settam. *Melliand Textilber. (English ed.) 34, No. 2:* 118,120 (1953).

New machinery for processing long-stapled fibers is discussed. Photographs are included.

Orlon thread

R. H. Dobson (E. I. du Pont de Nemours, Inc.). *Nat. Canvas Goods Mfrs. Rev. 29:* 19, 53-55, 67-68 (January, 1954).

Pointers are given for using Orlon sewing thread with canvas and allied fabrics.

Preparation and manufacture of linen thread

Max Kappel. *Melliand Textilber. (English ed.) 34, No. 2:* 122-125 (1953).

The manufacturing processes of linen thread are described.

Processing Saran monofilament

Textile Ind. 118: 87-90 (January, 1954).

A number of practical pointers given for processing Saran monofilament may be summarized: (1) don't try to process it like natural fibers, (2) do research and experimentation on a small scale before full scale production, and (3) have close supervision.

Production of fancy yarns

Guenter Pilz. *Melliand Textilber. (English ed.) 34, No. 2:* 126-132 (1953).

The production of knop and flake yarns is discussed. Although knop yarns can be produced from a knoppy card sliver it is generally agreed that the normal drawing system is most suitable. Examples of gearing arrangements are included.

Why top-breaking machines are a logical development

Francois E. Cleyn (Spinners Ltd.). *Textile World 104:* 81-83 (January, 1954).

The American system of worsted spinning created the need for short wools. Gilling and drafting developments have improved sliver variation, and top-breaking machines may give the uniformity in staple length that is so necessary. The following machines are described: Southwell

sizer, Holdsworth top breaker, Berker square top attenuator. Mill installation stories illustrate their use.

Apparatus for and method of cabling cords

Henry C. Uhlig (to Howe Twister Corporation). USP 2 654 211, October 6, 1953.

Apparatus for cabling cords

George W. Bogdanffy, Clyde O. Mitchell and Henry C. Uhlig (to Howe Twister Corporation). USP 2 654 210, October 6, 1953.

Doubled bushed center core bobbin

Lester F. Burlein (to Cloverleaf-Freeland Corporation). USP 2 661 912, December 8, 1953.

Method and apparatus for applying liquids to fibers

Robert D. Robinson and Raynaldo P. Jacques (to Bachmann Uxbridge Worsted Co., Inc.). USP 2 660 763, December 1, 1953.

An apparatus for applying a liquid in spray form to a fibrous web moving through a chamber.

Nylon yarn packages

British Nylon Spinners. BP 696 483. Through *Dyer 110:* 730 (November 13, 1953).

A package support for use in steaming and wet treatment of nylon yarn packages features flexible rubber sealing members fitting into grooves on the perforated steam duct. These members are inserted between packages and prevent steam or liquid leakage, thus forcing the steam or liquid through the packages themselves.

Resilient rollers

Andre Rubber Co. BP 697 814. Through *Dyer 110:* 730 (November 13, 1953).

The covering for a resilient roller consists of inter-engaging units of rubbery material slightly movable on their core. The invention, it is claimed, will reduce damage caused by foreign bodies passing through the rollers, will eliminate bonding the covering to the core, and will operate efficiently at greatly reduced pressures.

Fiber Preparation B 1

Are scourers hindering fibre lubrication progress?

Textile Recorder 71: 77-78 (December, 1953).

The need for new methods in wool scouring is stressed.

The burr crushing rollers in woolen spinning

E. Oehlmann. *Melliand Textilber. (English*

ed.) 34, No. 2: 116,118 (1953).

The author discusses the essential features of the burr crushing rollers (Peralta apparatus) and the difficulties encountered in practical operation.

German textile standards

Deutschen Normenausschuss. *Textil-Praxis 8:* 1021-1024 (December, 1953); *in German.*

Standards are given, showing terminology and gearing diagram principles for the following opening equipment: condenser, vertical opener, horizontal opener, and related equipment.

Proper oiling in condensed yarn spinning

Karl Muller. *Melliand Textilber. 34:* 1041-1043 (November, 1953); *in German.*

Correct oiling is a question of interest not only to the spinner, but to all engaged in cloth production. The author discusses the problem in its general aspects, and offers suggestions for a method of oiling which eliminates as far as possible drawbacks involved in other methods. 18 references.

Some points about the opening of rayon staple fibre

J. A. Keverling Buisman. *Enka Breda Rayon Rev. (English ed.) No. 6:* 55-61 (November, 1953).

Some experience gained in processing rayon staple in the opening room in the experimental A. K. U. spinning mill is described and explained with photos and control charts. The advantages of one process picking are discussed.

Apparatus for cutting artificial filaments into short length

Raymond Holden Speakman (to Imperial Chemical Industries Ltd.). USP 2 664 160, December 29, 1953.

Apparatus for opening cotton and like fibrous material

Zoltan Szaloki (Platt Brothers & Company Ltd., England). USP 2 661 501, December 8, 1953.

This opener uses two multiple blade beaters in a frusto-conical form with their axes inclined to one another and the blades so spaced as to open fed stock by an alternate impinging action.

Fiber feeding and weighing mechanism

Bernard E. O'Connor and Robert E. King (to Houdaille-Hershey Corp.). USP 2 660 393, Nov. 24, 1953.

An electrical control system for simultaneous

actuation of weigh box dumping doors on a number of fiber preparation machines operating in line.

Carding and Combing B 2

Condensing the card web

Guenter Pilz. *Melliand Textilber. 34:* 1120-1121 (December, 1953); *in German.*

The author shows how the card web can be condensed merely by carrying out simple modifications at the feed funnel and the upper calender roller. Better results are obtained with a condensing contrivance devised by E. Mahr, which the author describes in detail. He also gives advice on the further processing of condensed slivers on the first drawing.

A high capacity drousette after the Gilljam system

Textil-Praxis (English ed.) No. 4: 181 (November, 1953).

The Gilljam drousette is a special card for opening badly entangled threads and willow products. It is also adapted for opening hard twisted worsted yarn, rayon waste, crepe thread and threaded reclaimed wool.

On the importance of the back plates on a carding machine

F. Hohenholz. *Textil-Praxis 8, No. 7:* 545-549 (1953); *in German.* Through *Brit. Cotton Ind. Research Assoc. 33:* 642 (October 30, 1953).

Several theories have been developed on the functions of the back plates on a carding machine with moving flats. One opinion is that air current, passing between the cylinder and the flats, aids the transport of the web from the licker-in on to the main cylinder, while the first back plate serves to hold the web down to the cards until the moving flats take it up. After the web has been moved by the flats across the cylinder, it passes under the second back plate. Again the air current aids the web to leave the last flat, and the back plate only serves to eliminate unevenness of the web. Another opinion is that the air current plays a very unimportant role in the carding process. It is maintained that the first back plate disperses the fibers evenly by pressing them firmly on the cylinder until the first flat takes them up and moves the web across the cylinder. When the last flat moves away from the web and the cylinder, the receiving back plate serves to eliminate neps and short

fibers, while avoiding overpiling of the web on the cover of the doffer and consequent wastage. The back plates are thus thought to play an important part in the carding process.

Problems in wool carding. Part 14. Neppy slivers

P. P. Townend (Textile Dept., University of Leeds). *Wool Rev. 27:* 45-47 (December, 1953).

Experiments to determine the effect on the sliver nep count of the length of the card, the rate of carding, and carding damp material.

The strain on card clothing in the production of coarse yarns

Walter Prade. *Melliand Textilber. 34:* 1121-1122 (December, 1953); *in German.*

In the production of coarse yarns of metric count numbers 2.5 to 1.2 from cotton waste, the card clothing is subjected to very heavy strain. At a delivery speed of about 15 meters per minute, a properly prepared web of perfect quality can be achieved only on a double doffer system set. Essential conditions are good cleaning and opening prior to carding, and also grinding of the cards.

Wool combing machine

Louis P. Miller. USP 2 661 502, December 8, 1953.

An improvement whereby the outer circle of the comb is fixedly mounted and the inner circle is rotated in a planetary motion along the inner circumference of the outer circle.

Drafting and Roving B 3

Are cotton draft systems suitable without modification for rayon staple fibre

P. de Marsano and A. Visser. *Enka Breda Rayon Rev. (English ed.) No. 6:* 62-71 (November, 1953).

Draft systems are discussed in detail with particular attention to the Le Blan Roth high draft system. Experimentation was carried out to determine the effects of the following three techniques: 1. normal system, with top roller on back cylinder; 2. system by which the roving is given an extra turn round the back cylinder; 3. system by which the top roller is removed from the back cylinder. 6 references.

Drafting of sliver. Part 6

A. Ikeda. *J. Soc. Textile Cellulose Ind., Japan, 9, No. 5:* 233-237 (1953); *in Japanese with English summary.* Through *Brit. Cotton Ind. Research Assoc. 33:* 768 (December 15, 1953).

Curves showing the actual and theoretical distribution of fibers in slivers of rayon staple, cotton, and wool, drafted between front and back pairs of rollers, are compared. The experimental curve for the gripped fibers of rayon staple sliver corresponds to the theoretical curve, but the experimental curves for drafted and floating fibers are lower than the theoretical curves. The differences are greater for the cotton sliver.

Drawing of hard fibre tow; a study of sliver regularity and fibre distribution in slivers. Part 4. Drafting-wave and fibre length-wave

J. G. Thieme (Sisal Products (E.A.) Ltd.) *Textile Quart. 3, No. 4:* 237-242 (1953).

Influence of roll eccentricity and faulty roll load distribution on yarn regularity

P. de Marsano. *Enka Breda Rayon Rev. 7:* 213-221 (December, 1953); *in Dutch.*

After discussing the influence of roll eccentricity a method is given for calculating the variance due to a given roll eccentricity at a certain draft. The article deals further with faulty roll load distribution and its effect on the yarn. A method for detecting rolls with this defect is suggested.

Practical experiences in dividing the web on the cotton drawing frame

Gustav Porsche. *Textil-Praxis (English ed.) No. 4:* 153-157 (November, 1953).

Attempts have been made to eliminate a speed frame passage by producing twice as fine a draw frame sliver in order to spin it directly into yarn. Shortening of the preparatory spinning processes will bring the desired results only if an even lap is produced and the carding is of superior quality.

Roller slip and the irregularity of cotton and rayon-staple draw-frame slivers. Part 1. Practical and experimental

G. Dakin, G. A. R. Foster and J. Locke. *J. Textile Inst. 44:* T544-T569 (November, 1953).

Also in *Shirley Institute Memoirs.* See abstract *Textile Technology Digest 10:* 1376 (September, 1953).

Roller slip and the irregularity of cotton and rayon-staple draw-frame slivers. Part 2. The nature of roller slip and the theory of draft distribution

G. A. R. Foster. *J. Textile Inst. 44:* T570-

T579 (November, 1953).

Also in *Shirley Institute Memoirs.* See abstract *Textile Technology Digest 10:* 1376 (September, 1953).

Fiber drafting

Olle E. Sandelin. USP 2 659 936, November 24, 1953.

A method of using air suction for controlling fibers during drafting.

Pressure-applying device for the drafting rollers of drafting apparatus

Geoffrey Hill Ambler (to Ambler Superdraft Ltd., England). USP 2 666 232, January 19, 1954.

Rectangular condenser for pin drafters

James R. Longstreet (to The Warner & Swasey Company). USP 2 661 503, December 8, 1953.

A sliver feed mechanism so constructed as to present the sliver, with a substantially uniform rectangular cross section, to the gill box.

Roller guide means

Wilhelm Stahlecker (to Vereinigte Kugellagerfabriken Aktiengesellschaft, Germany). USP 2 666 231, January 19, 1954.

A device for guiding the upper rollers of a textile fiber drawing mechanism in which the upper rollers are arranged in pairs.

Stop motion for roving frames

Simpson J. Adams. USP 2 658 326, November 10, 1953.

A mechanical and electrical means for detecting slack in the roving and stopping the frame.

Spinning B 4

Cutdrafil direct spinning frame

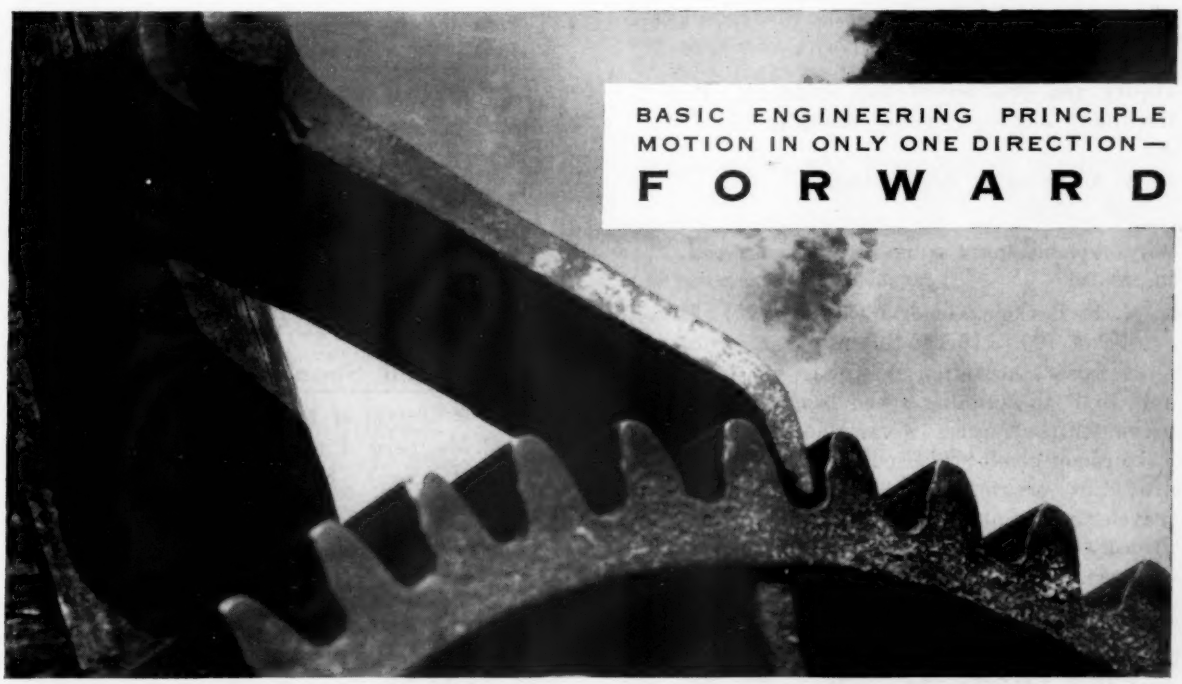
Otto Reinhardt. *Z. ges. Textil-Ind. 55:* 1415-1417 (December 5, 1953); *in German.*

The Rieter Cutdrafil direct spinning frame for spinning a staple fiber drawn band by a new process is described.

Economies of longer lifts

Textile Wkly. 52: 1904 (December 18, 1953).

Increasing production through modifying ring spinning frames by increasing the length of the lift in order to obtain larger packages.



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[1475]

End breakages on ring-spinning machines

J. A. Keverling Buisman. *Enka Breda Rayon Rev. (English ed.) No. 6:* 74-82 (November, 1953).

A variety of results obtained by ends down determinations when spinning rayon staple fibers on modified cotton equipment in a pilot spinning mill are given. The following factors which affect the breakage number are discussed: (1) fiber quality; (2) spindle speed and ring diameter; (3) yarn count; (4) twist; (5) drafting system and settings; (6) number of passages in drawing; (7) moisture and temperature; (8) condition of ring-spinning frames; (9) skill of the spinner; (10) unknown factors. 7 references.

Mill of today. Part 41. Selecting the proper spindle

Robert Z. Walker. *Textile Bull. 79:* 73-78 (December, 1953).

Theoretical study of ring and cap spinning balloon curves (with and without air drag)

C. Mack. *J. Textile Inst. 44:* T483-T498 (November, 1953).

Also in *Shirley Institute Memoirs.* See abstract *Textile Technology Digest 10:* 1379 (September, 1953).

Theory and practice of flax spinning. Part 2. Machinery and equipment. Chapter 13. Twisting

A. V. Pringle. *Textile Quart. 3, No. 4:* 256-264 (1953).

Why variable-speed spinning has not been successful

R. E. Parker (General Electric Co.) *Textile World 104:* 110-113 (January, 1954).

A false assumption that yarn tension is the only limit to spinning speed is claimed to have prevented the success of variable-speed spinning. Factors not given proper consideration as limiters are: lint accumulations, drafting limitations, traveler wear, and spindle vibration. Past failures are analyzed and a more realistic approach is outlined.

Balloon guard

Chadwick B. Kingsbury (to North American Rayon Corporation). USP 2 660 856, December 1, 1953.

A balloon guard is formed by extending a springy coiled structure around a twisting spindle. The guard is collapsible when not in use.

[1476]

Bobbin donning mechanism for ring spinning, doubling, and twisting machines

James Jackson Haythornthwaite and Thomas Haighton (to T. M. M. Research Ltd., England). USP 2 658 325, November 10, 1953.

Device for confining the yarn balloon with a pay-off bobbin

Lambertus te Strake, Netherlands. USP 2 654 551, October 6, 1953.

A balloon and yarn guide for horizontally supported paying-off bobbins.

Spindle brake

John A. Kooistra (to Davis & Furber Machine Company). USP 2 657 523, November 3, 1953.

Spinning machine drive

Johann Jacob Keyser (to Schiess Aktiengesellschaft, Germany). USP 2 658 327, November 10, 1953.

Textile spinning and analogous machinery

James Jackson Haythornthwaite (to Howard and Bullough Ltd.). USP 2 656 989, October 27, 1953.

A textile spinning, doubling or twisting machine with movable spindle and ring rails.

Twister head driving mechanism for wool spinning machines

Francis B. Kelliher (to Whitin Machine Works). USP 2 654 212, October 6, 1953.

A variable-speed mechanism is located between the power shaft and cylinder shaft so that the twister head speed can be varied manually without affecting the spindle speed.

Winding and Spooling B 5

A reliable system of pirning

J. C. Meijberg. *Enka Breda Rayon Rev. (English ed.) No. 6:* 83 (November, 1953).

By keeping the pirns of each spindle of the pirning machine apart, the injurious influence of a pirning position which is not operating properly and producing too high a tension can be considerably restricted. By weaving the pirns in the order in which they have been wound, the influence of yarn differences is reduced.

Tensioning mechanism for winding machines

Melvin A. Thom. USP 2 661 914, December 8, 1953.

Traverse motion for yarn winding machines and the like

Morris M. Waldrop (to J. P. Stevens & Co., Inc.). USP 2 658 689, November 10, 1953.

Twisting frame

Hans Bachofen, Switzerland. USP 2 660 023, November 24, 1953.

An apparatus for winding the twisted thread onto a bobbin.

Yarn cone and tube winder

Thomas Lee Wright. USP 2 664 249, December 29, 1953.

A frictional surface driving mechanism for winding tubes and for cones composed of a reversely threaded screw cam and a yarn guide reciprocating longitudinally along the package.

Yarn stretching device

Eliot Stone, Edward James Sparke and Joseph Patrick Muldowney (to British Enka Ltd.). USP 2 661 521, December 8, 1953.

A device which stretches yarn to a variable extent by means of a speed differential of two winding mechanisms.

FABRIC PRODUCTION C

Fabric measuring and inspection machine

Rudolph G. Birr and Paul W. Jespersen (to American Linen Supply Co.). USP 2 656 756, October 27, 1953.

Improved weft-straightening

G. Durrant and Sons. BP 697 026. Through *Dyer 110:* 729 (November 13, 1953).

An improved actuating device for this weft-straightening device allows the operator to work from a more convenient position.

Newest way to operate a cloth room

Richard B. Pressley. *Textile World 104:* 78-80,188-192 (January, 1954).

Materials handling in the rayon-cloth section of Woodside Mills, Simpsonville, S. C. plant. A new system for charging seconds to weavers is also described.

Plied yarn and plied yarn fabric and method of making same

Howard Byers Jackson (to Neisler Mills, Inc.). USP 2 656 585, October 27, 1953.

A composite yarn produced by plying a direct spun synthetic shrinkable yarn and a less shrinkable yarn so that different degrees of shrinking are produced by wetting.

Rayon knitting yarns on beams

J. C. Meijberg. *Enka Breda Rayon Rev. (English ed.) No. 6:* 86-88 (November, 1953).

The advantages of supplying rayon yarns on beams are discussed.

Yarn preparation C 1

Guide for warp beams

Tobias Rovas (to Ohio Knitting Mills, Inc.). USP 2 658 699, November 10, 1953.

A spacing device for use between sections of yarn on a warp beam.

Slasher roll

Abraham L. Freedlander (to the Dayton Rubber Company). USP 2 656 582, October 27, 1953.

Rubber-covered roll having a number of spaced surface slits to control the amount of sizing liquid left in the yarns.

Variable yarn moistening machine

Joeres & Pferdmenges, Rheydt, Germany. *Textil-Praxis (English ed.) No. 4:* 152 (November, 1953).

A new "Zerma" yarn moistening machine is described. Up to 26,000 lbs. of yarn can be moistened in continuous operation in 8 hours.

Weaving C 2

Adjustment of the loom

J. Ozga. *Textil-Praxis (English ed.) No. 4:* 163-164 (November, 1953).

A simple device for expediting loom adjustment is described.

Automatic high-speed looms

A. Gasser. *Melliand Textilber. (English ed.) 34, No. 2:* 134 (1953).

The technical features of the Ruti automatic high-speed looms are described.

Auxiliary machines in weaving mills

Oswald Foerster. *Melliand Textilber. (English ed.) 34, No. 2:* 136 (1953).

Two machines specially designed for the maintenance of loom accessories are described. One is for reed maintenance and the other is a drop wire cleaner.

A cloth weaver picker

Textil-Praxis (English ed.) No. 4: 164 (November, 1953).

A new patented picker stick is briefly discussed.

Controlled warp tension

Heatley and Son Ltd., Blackburn, England. *Textile Wkly. 52:* 1802, 1805-1806 (December 11, 1953).

Textomatic warp let-off motion, simple in basic conception and claimed to ensure a high degree of tension evenness at all times. Technical details of the principles of operation are given.

How to weave drills and twills

W. C. Westbrook. *Textile World 104:* 105, 178,180 (January, 1954).

Jute and linen weaving. Part 2. Chapter 9. Picking

Thomas Woodhouse and Thomas Milne. *Textile Quart. 3, No. 4:* 230-236 (1953).

Modern shaft construction

Oswald Foerster. *Melliand Textilber. (English ed.) 34, No. 2:* 141-144 (1953).

The shafts used in mechanical weaving must contain the following elements: the shaft staves, the end binders and the flat bars for holding the healds. The modern construction of each of these items is described.

The shuttle box swell

E. O. Hesse. *Melliand Textilber. (English ed.) 34, No. 2:* 138,141 (1953).

The importance of having the proper shuttle box swell is discussed. There is an intimate connection between the form and function of the shuttle box swell and proper loom operation.

Tufted-cotton carpets

George M. Moisson. *Textile World 104:* 93-95 (January, 1954).

A tufting machine is used instead of a loom to make 14-foot carpeting at about a yard a minute.

Use of oscillographs and similar instruments in analysis of loom operations

Albert Palmer and Victor Sepavich (Crompton & Knowles Loom Works). *Textile Age 18:* 14-19 (January, 1954).

The oscillograph enables data from several different sources to be recorded simultaneously on one chart so that at any given instant the relationship of the elements in question can be determined. Several specific examples are given to demonstrate the technique of using the oscillograph for the analysis of mechanisms.

Weaving and kindred processes. Part 1

A. T. C. Robinson. *Skinner's Silk and Rayon Record 27:* 1386-1388 (December, 1953).

A review of modern weaving, with emphasis on the special requirements of the man-made fibers. This series of articles is concerned more with general principles and comparisons of advantages and limitations, than with the mechanical details of each mechanism.

Weaving discussion

Textile Operating Executives of Georgia. *Textile Ind. 118:* 131-143 (January, 1954).

What are they doing about looms for man-made fibers?

Modern Textiles Mag. 35: 32-33, 74-76 (January, 1954).

Two major loom builders, Crompton & Knowles Loom Works and Draper Corporation, survey their research and development programs in relation to the special needs of man-made fibers.

Auxiliary beam letoff mechanism for looms

John A. Bradshaw (to J. P. Stevens & Co., Inc.). USP 2 664 114, December 29, 1953.

A letoff mechanism for slack feeding of supplementary warp ends from an extra beam.

Damping means for yarn tension compensating devices

Edward J. Heizer and John Warwick (to Specialties Development Corp.). USP 2 661 913, December 8, 1953.

Device for maintaining the tension in the warp threads of a loom uniform

George W. Kretzschmar. USP 2 661 774, December 8, 1953.

Fabric let-back means for looms

Hardy B. Gosnell. USP 2 664 115, December 29, 1953.

A fabric let-back device which disengages the stop and feed pawls from the ratchet wheel when the loom knocks off and an indicator by which the operator can reset the ratchet wheel to a predetermined position.

Filling motion for shuttleless looms

Edward J. Berry and George T. Allenson (to

Draper Corporation). USP 2 654 399, October 6, 1953.

Filling replenishing means for looms

Florence F. Donoghue, Kenneth E. Sanderson and Joseph D. Pigott (to Draper Corporation). USP 2 654 400, October 6, 1953.

Jacquard

Joseph Ashworth and Albert Firth (to John T. Hardaker Ltd., England). USP 2 660 202, November 24, 1953.

A double lift double cylinder jacquard.

Jaw holder for gripper shuttle looms

Nicholas P. Darash (to The Warner & Swasey Company). USP 2 660 201, November 24, 1953.

Knot tying mechanism

Edward E. West. USP 2 661 230, December 1, 1953.

Loom knockoff means

Florence F. Donoghue and Harrison N. Thibault (to Draper Corporation). USP 2 658 534, November 10, 1953.

A loom knock-off for filling failure and/or warp failure.

Photoelectrically controlled loom protection

Alexander C. Krukonis (to Crompton & Knowles Loom Works). USP 2 664 116, December 29, 1953.

An electrical device to control the speed of the loom according to a predetermined standard.

Picker check strap for looms

Victor Gravitt (to Page Belting Company). USP 2 666 455, January 19, 1954.

Safety device for looms for weaving tufted pile fabrics

Edward S. Butler and Arthur Sutcliffe (to Platt Brothers and Company, England). USP 2 666 458, January 19, 1954.

Electric stop motion to stop the loom or to prevent the loom from being run when there is not a tube frame in the transferring arms.

Shuttle brake mechanism for looms

Cristobal Casals Duran (to Telares Casals Duran, S.A., Spain). USP 2 658 532, November 10, 1953.

Shuttle ejector

George Cadorette (to Draper Corporation).

USP 2 658 531, November 10, 1953.

Improved shuttle ejector for a fly shuttle loom.

Shuttle feeler with weft cutter for replenishment looms

Vladislav Divisek (to Prototypa narodni podnik, Czechoslovakia). USP 2 661 027, December 1, 1953.

This device controls the position of the shuttle and also cuts the filling upon bobbin change.

Shuttle holding means

Kurt Schwabe, Switzerland. USP 2 656 858, October 27, 1953.

A device for holding a shuttle during the changing of the weft bobbin.

Shuttle lock for looms

James Chapman and Roger Nixon Reynolds. USP 2 661 775, December 8, 1953.

Stripping of bobbins

Henry Ewing (to British Celanese Ltd.). USP 2 663 926, December 29, 1953.

An apparatus for cutting and removing waste yarn from bobbins.

Temple for weaving looms of the trough and roller type

Raymond Dewas, France. USP 2 666 457, January 19, 1954.

Tension control for the let-off mechanisms of looms

George W. Kretzschmar. USP 2 661 773, December 8, 1953.

Thread gripper

Max Bar (to Knotex Maschinenbau G. m. b. H., Germany). USP 2 656 583, October 27, 1953.

Thread gripper for warp knotting machines.

Weaving loom with stationary weft supply

George Hazelton (to Clutsom & Kemp Ltd.). USP 2 654 398, October 6, 1953.

Weaving shuttle of molded material having embedded tip-anchoring means

Wilfrid J. Gosselin (to U. S. Bobbin & Shuttle Company). USP 2 658 533, November 10, 1953.

Weft stop motion for narrow fabric looms

Melvin Siegel. USP 2 661 028, December 1, 1953.

A stop motion in which a metallic trigger (feeler) upon making contact with a metallic unwound bobbin allows an electrical current to open a switch and stop the loom.

Yarn tensioning device for loom shuttles

Joseph E. Blanchard (to Watson-Williams Manufacturing Company). USP 2 666 456, January 19, 1954.

Knitting C 3

Correct adjustment of warp knitting machines

Karl Faust. *Melliand Textilber. (English ed.) 34, No. 2:* 152-160 (1953).

The author demonstrates with the aid of photographs the correct position of the guide bars with their guide needles in relation to the bearded needles.

Double cylinder embroidery plating on men's hose. Part 2

Joseph Rab. *Knitter 17:* 40-46 (December, 1953).

How to get the best results on the warp knitting machine

E. Heukers. *Enka Breda Rayon Rev. (English ed.) No. 6:* 101-105 (November, 1953).

The faults which may occur in warp knitted fabrics are classified in the following groups: 1. yarn defects, 2. faults on the creel, 3. faults on the warping machine, 4. knitting faults, 5. conditioning faults. Directions for prevention of each of these faults are given.

Knitting open-mesh fabrics on warp looms

J. B. Lancashire. *Textile Recorder 71:* 72-74 (December, 1953).

New Wildman knitter produces pile fabric

Wildman Machine Company, Norristown, Pa. *Modern Textiles Mag. 35:* 31 (January, 1954).

A knitting machine equipped with small carding devices has been developed for producing a wide range of fleecy, pile and fur-like fabrics from ordinary sliver.

Patterning devices on twill flat knitting machines

Gottfried Kuehnert. *Melliand Textilber. (English ed.) 34, No. 2:* 160,162 (1953).

The basic elements for automatic stitch and tuck changes are described.

Bracket assembly for supporting yarn carriers on straight knitting machines

Raymond J. Good (to Fred C. Good & Sons, Inc.). USP 2 666 312, January 19, 1954.

Circular knitting machine

Erik Frits Lund, Denmark. USP 2 664 006, December 29, 1953.

Circular multifeed hosiery knitting machine and method of operating same

Robert H. Lawson (to Scott & Williams, Inc.). USP 2 658 365, November 10, 1953.

Convert your loopers to seamless

Sam Boyer (Wisteria Hosiery Mills, Inc.). *Textile Ind. 118:* 91-97 (January, 1954).

Complete step-by-step directions for converting full-fashioned loopers to seamless and sock loopers are given with photographs of each step.

Dial construction for circular rib-type knitting machines

Samuel Mishcon and Harry Agulnek (to Supreme Knitting Machine Co., Inc.). USP 2 661 613, December 8, 1953.

Electrical stop motion for knitting machines

William Oscar Heyne (to T. J. Brooks (Autos) Ltd.). USP 2 654 238, October 6, 1953.

A knitting machine control device responsive to the tension of running yarn.

Fabric take-up mechanism for textile machines

Peter J. Schoenster and Max E. Ebert (to Alfred Hofmann & Co.). USP 2 661 614, December 8, 1953.

An electro-magnetic slip clutch, for driving a take-up roll, to vary the tension imposed on the fabric during different stages of the knitting cycle, and a supplementary means operating at predetermined times to partially counteract the torsional effect of the clutch and to modify the tension imposed on the fabric.

Flat knitting machine

Edward Samuel Barsby and Alfred Percy Saunders (to Wildt and Company Ltd.). USP 2 656 694, October 27, 1953.

Guide for yarn carriers

Edward Jentsch. USP 2 656 692, October 27, 1953.

Knitting device

Max Buxbaum and Moe Lebensfeld. USP 2 656 690, October 27, 1953.

Tubular cords of varying cross section are formed.

Knitting machine

Stanley R. Shelmire (to Scott & Williams, Inc.). USP 2 658 366, November 10, 1953.

This machine uses a blast of air upon the hooks of independently movable latch needles to open the latches.

Knitting machine

Arthur Shortland (to Mellor Bromley & Company Ltd.). USP 2 656 691, October 27, 1953.

Machine for knitting shaggy fabrics

Herman E. Crawford. USP 2 661 612, December 8, 1953.

Means for feeding yarns in knitting machines

Arthur Shortland (to Mellor Bromley & Co. Ltd.). USP 2 658 367, November 10, 1953.

Yarn is fed from a wound package to the needles by passing the yarn through a reciprocating guide around the periphery of a tapered drum and through another such guide to the needles.

Motor control system for knitting machines

James Fred Sibley. USP 2 666 313, January 19, 1954.

Needle mounting for knitting machines

Harold C. Noe (to Kidde Manufacturing Co., Inc.). USP 2 654 237, October 6, 1953.

New warping techniques raise tricot efficiency and quality

James H. Blore. *Textile World 104:* 119,174-178 (January, 1954).

High knitting efficiency through low yarn tensions, low warper speeds, balanced beams, oiled yarn, and regular creel maintenance.

Rocker arm for knitting machines and the like

Eugene Bellini (to Vanity Fair Mills, Inc.). USP 2 656 729, October 27, 1953.

Straight bar knitting machine and a method of operating same

Fritz Lambach (to Robert Reiner, Inc.). USP 2 666 311, January 19, 1954.

A straight bar knitting machine, with a loop transfer means.

Thread tension arrangement for knitting machines

Paul Schmidt (to Textile Machine Works). USP 2 660 041, November 24, 1953.

A tensioning ring through which yarn passes to the snapper aperture and a tensioning device, on the yarn supply side of the ring, which contacts

the yarn, when tension slackens, to maintain a tension on the yarn at the delivery side of the yarn carrier.

Yarn carrier of knitting machines

Charles G. Newton (to Textile Machine Works). USP 2 656 693, October 27, 1953.

Special fabrics C 4

Apparel fabric containing ramie now produced on commercial scale

Textile Ind. 118: 109 (January, 1954).

Blend of ramie, cotton and viscose staple developed by Swift Manufacturing Co., Columbus, Ga.

Carded nep yarns in fancy woolens

Wool Record 84: 1327-1328 (December 3, 1953).

Some popular weaves and color-blends.

Cloth setting reconsidered. Part 3. Setting of warp corkscrew weaves

S. Brierley. *Textile Mfr. 79:* 633-634 (December, 1953).

Many weaves ranging between the ordinary satins (or sateens) and warp corkscrews are built on satin bases, showing longer or shorter warp corkscrew twills alternated by shorter or longer floats forming weft whipcord twills.

Combined weave designs

Wool Record 84: 1501-1502 (December 24, 1953).

Designing twills by combining them with other designs.

Design in woven fabrics. Part 14. Line effects by combining colour and weave

Wool Rev. 27: 22-23, 60 (December, 1953).

Diagonally laminated fabrics

O. Mecheels and Carl Kubitzky. *Melliand Textilber. (English ed.) 34, No. 2:* 147-150 (1953).

Tests were made to determine whether a fabric consisting of two cloths, one running longitudinally and the other running diagonally, would be more serviceable than lined fabric consisting of two normal longitudinally running cloths. Experimental data is presented.

Electrostatic flock velvet finish

Wilhelm Steinberg. *Melliand Textilber. (English ed.) 34, No. 2:* 186, 188 (1953).

[1487]

A technique has been developed for applying flock to a surface by means of electrostatic principles. An interesting feature of this process is that it produces a velvet-like coating instead of a felt.

Fancy styles in dress cloths

Wool Record 84: 1446, 1448 (December 17, 1953).

Fancy check color schemes for light weight woolens and worsteds.

Fashion fabrics in wool

Textile Merc. 129: 1132, 1135, 1137 (December 4, 1953).

Patterns in stripes and fancy checks.

Fibre fleeces with the same strength properties lengthwise and transverse

Melliand Textilber. (English ed.) 34, No. 2: 196 (1953).

A machine has been manufactured that will produce multi-layer fiber fleeces with maximum and uniform longitudinal and transverse strength.

Pile fabric

Wilbur Elliott Cowie and Arthur Eugene Blouin, Canada. USP 2 656 586, October 27, 1953.

A lightweight flexible pile suitable for sub-zero temperatures.

Shetland and homespun tweeds

Wool Record 84: 1384, 1389 (December 10, 1953).

Some popular weaves and color effects.

Why is wool best for paper machine felts

John Standish (Albany Felt Co.). *Paper Trade J. 138:* 21-22 (January 15, 1954).

The use of wool felts and the application of synthetic fibers and blends are discussed.

STANDARD FINISHING D

Adams-Millis method uses hot water to preset full-fashioned hose

R. J. Kissiah. *Knitter 17:* 50-52 (December, 1953).

The Dunn system is modified by presetting in a hot water bath with a scour and gum added rather than presetting with a steam bath or water vapor treatment.

Apparatus for treatment of polyamide fabrics

Nathan A. Long, Lawrence T. Carter, Harvey

[1488]

Lindley, Luther B. Stadler and Walter Lindsey Fogleman (to Long Finishing Mills, Inc.). USP 2 654 162, October 6, 1953.

Hot air is used to set the crimp of fabrics knitted from synthetic plastic filaments.

A contribution to the study of the action of chlorite and chlorine dioxide on wool

C. Schirlé (Centre de Recherches Textiles de Mulhouse). *Bull. Inst. Textile France No. 41:* 21-65 (August, 1953); *in French.*

33 references.

The heat-setting of woven and knitted Enkalon fabrics

J. Andriessen. *Enka Breda Rayon Rev. 7:* 236-244 (December, 1953); *in Dutch.*

After a discussion of the pin-stenter in use at A.K.U., a description is given of measurements serving to give a picture of the temperature of the fabric on passing the hot zone, and of the evenness of the temperature over the surface of the cloth.

Linen yarn drying

G. Satlow and G. Heller. *Z. ges. Textil-Ind. 55:* 1437-1440 (December 5, 1953); *in German.*

The results of experimentation on drying linen yarn are given.

Mill procedures for dyeing and finishing Orlon acrylic fiber

Howard P. Brokaw (E. I. du Pont de Nemours & Co.). *Textile Age 18:* 36-40 (January, 1954).

Milling of fabrics containing rayon staple

Hugo Nuding. *Melliand Textilber. (English ed.) 34, No. 2:* 194 (1953).

The special precautions which should be taken in milling wool and hair fabrics containing rayon staple are described.

A new method for bleaching Enkalon

A. G. Lutgerhorst. *Enka Breda Rayon Rev. (English ed.) No. 6:* 108 (Nov. 1953).

Two methods for bleaching Enkalon (a polyamide fiber) are described: with sodium chlorite, and with sodium hypochlorite.

Some notes on wool bleaching. Part 2.

Textile Recorder 71: 81-82 (December, 1953).

The technicalities of sulfur bleaching are discussed. 4 references.

DYEING AND PRINTING E

Azo dyes for cellulosic fibers

Ludwig Richter (to General Aniline & Film Corporation.) USP 2 666 757, January 19, 1954.

Chlormethylation of vat dyes of the pyranthrone, anthanthrone, and dibenzpyrenequinone series

David I. Randall and Tellis A. Martin (to General Aniline & Film Corporation). USP 2 666 767, January 19, 1954.

A contribution to the application of indanthrene dyes in machine dyeing

August Lohmann. *Textil-Praxis (English ed.) No. 4:* 172-178 (November, 1953).

The problems involved in the indanthrene dyeing of rayon and certain types of staple fiber by the various dyeing machine systems are discussed. 7 references.

Dustless powders

R. K. Fourness (Yorkshire Dyeware and Chemical Co.). *Dyer 110:* 873 (December 11, 1953).

Overcoming the dust problem, particularly with acetate dyes, by treatment of dyestuff powders with either of two groups of liquids: the first including higher fatty alcohols and the second a group of high boiling esters.

Dye liquor supply

R. S. E. Hannay and W. Kilby (to Standfast Dyers and Printers, Ltd.). BP 697 015. Through *Dyer 110:* 729-730 (November 13, 1953).

An apparatus whose object is to continuously supply a dyeing liquid of uniform composition for as long as necessary has been developed. Delivery of each component is controlled by a calibrated feeding valve. The patent describes the entire installation.

Dyeing at temperatures over 100° C.

W. Justus. *Melliand Textilber. 34:* 1148-1151 (December, 1953); *in German.*

After giving a brief historical outline, the author discusses the advantages of high temperature dyeing in the application of direct, acid, and vat dyestuffs to cellulosic and synthetic fibers, and points out possible causes of fiber tendering which must be taken into consideration. References.

Dyeing of a natural silk/polyamide fibre union article

U. Schimmel. *Melliand Textilber. (English ed.) 34, No. 2:* 182-186 (1953).

The color effects of certain dyestuffs on mixtures of natural silk and Perlon or nylon are discussed. Tables are included showing alternate methods of dyeing natural silk in such blends.

Dyeing of acrylonitrile polymers with acetate dyes

Linton G. Ray, Jr. (to E. I. du Pont de Nemours & Company). USP 2 654 652, October 6, 1953.

Padding with a mixture of an acetate dye and a dispersing liquid composed 25% to 100% of a cyclic ester containing from 3 to 5 carbon atoms and wet steaming the padded structure for at least 5 minutes to effect dyeing.

Dyeing of worsted piece goods with metachrome dyestuffs

Walter Sperlich. *Melliand Textilber. (English ed.) 34, No. 2:* 180 (1953).

A method of dyeing pure wool piece goods with metachrome dyestuffs is described.

Effect of copper in wool dyeing

L. F. Story. *Textile Mfr. 79:* 654-655 (December, 1953).

Light dyeing of a number of chrome dyes is affected by very small amounts of copper present on the wool or in the water. Off-shade dyeings of such colors may increase, because the contamination of wool with traces of copper is expected to increase, due to the use of copper sulfate in sheep dips.

Effect of metal mordants on Ursol dyeing

A. Ginzel. *Melliand Textilber. (English ed.) 34, No. 2:* 178,180 (1953).

Discusses briefly the various effects of metallic salts in dyeing fur.

Metal complex compounds in cotton dyeing

R. Paltzer. *Melliand Textilber. 34:* 1151-1154 (December, 1953); *in German.*

The author discusses the development leading from the old metal mordanting processes to the modern cotton dyestuffs, to which the formation of metal complexes has imparted many valuable properties. He describes these metal complex dyestuffs, giving numerous examples, and refers especially to the so-called Coprantine dyestuffs, which fill the gap between the light-fast direct dyes and the vat dyestuffs.

[1491]

More recent investigations about the properties of vat dyes

J. Wegmann. *Textil-Rundschau 8, No. 10:* 533-543 (1953); *in German.*

The purpose of these investigations was to offer the practical dyer as much information as possible about the dyeing properties of individual vat dyes, in the form of characteristic diagrams. It was not so much the kinetics of the dyeing process but the extent to which exhaustion at the end of the normal dyeing period was a function of temperature, alkali, and electrolyte. Since cotton and viscose rayon exhibit entirely different behavior, separate curves were made for each. Long summary in *Brit. Rayon & Silk J. 30:* 72, 74 (December, 1953).

New developments in the field of dyeing rayon fabrics

A. W. Bakker. *Enka Breda Rayon Rev. 7:* 257-265 (December, 1953); *in Dutch.*

In addition to the method of dyeing on the winch, some newer methods are described, such as the pad-jig, pad-winch, and pad-steam methods. With these methods an increase in production and well-penetrated and level dyeings is obtained.

New problems in garment dyeing

B. Kramrisch and F. Grainger. *Dyer 110:* 751-757 (November 13, 1953).

Problems arising in the dyeing of various blends, with particular reference to newer fibers.

New vat print process: du Pont technique

Dyer 110: 717-718 (November 13, 1953).

Vat dye pigment is printed by any desired method, even using thickeners not compatible with caustic and hydrosulfate. The latter are overprinted with an all-over engraved roller and the cloth is immediately passed into an air-free steam chamber for reduction. Prints can be stored for any desired length of time prior to development. The complete range of indigoid and anthraquinone vats are printable by this method and color-value is increased with "printing type" vats.

Notes on dyeing tub-fast colors. Part 3

F. O. Stone. *Textile Bull. 79:* 87-89 (December, 1953).

Naphthol dyeing.

Observations on the development of textile techniques

F. Weber. *Melliand Textilber. 34:* 1079-1080

[1492]

(November, 1953); *in German.*

The author discusses the developments in America and Europe in the field of dyeing and printing of natural and synthetic fibrous materials and unions of these fibers, with special consideration given to the modern continuous processes. Developments in America and Europe have often proceeded along quite different lines, and the advantages and disadvantages of these processes are discussed. New kinds of dyestuffs are also described.

Phthalocyanine dyes

Farbenfabriken Bayer's. BP 698 039. Through *Dyer 110:* 730 (November 13, 1953).

A method for production of unsulfonated phthalocyanine dyes in fibers by dyeing or printing permits utilization of their excellent fastness properties. The phthalocyanine intermediate and/or its metal salt, with a reducing agent and, if necessary, a metal salt can be dissolved in alcohols, formamide, or water for dyeing. For printing, the above ingredients are pasted with a thickener and ammonia, amines or ammonium salts and applied in the usual manner. Development is achieved by use of strong light, high temperature, or steam.

Resin prints in relief

Heberlein and Co., Switzerland. BP 696 578. Through *Dyer 110:* 728 (November 13, 1953).

Either a resin dispersion (with or without added pigment or filler) or a precipitating agent (polyvalent metal salt) may be padded on cloth while the other is printed on. The metal salt renders emulsifiers inactive, thus locally precipitating the resin. Relief, halftone, and grained surface effects are obtained by use of deeply engraved printing rollers.

A review for the rayon hank dyer

Rudolf Schmidt. *Melliand Textilber. (English ed.) 34, No. 2:* 176.178 (1953).

The author offers practical advice regarding the processing of rayon on hank dyeing machines.

Some experiments on the overdyeing of nylon

C. D. O'Briain and R. H. Peters. *J. Soc. Dyers Colourists 69:* 435-439 (November, 1953).

Rate-of-dyeing curves have been measured for nylon dyed under very acid conditions (pH ca. 1.5). The curve falls into two parts; in the initial stages the uptake is rapid, and this is followed by a slow increase in dye concentration which does not reach a maximum. By stripping

the dye from the fiber and redyeing under conditions of high pH, the number of free amine ends has been estimated. From the results it has been shown that during the second part of the rate-of-dyeing curves hydrolysis occurs, giving an increased number of amine groups. The amount of dye taken up at the low pH values is, however, far in excess of that required to saturate the amine groups and must be accounted for by "amide group" dyeing. Viscosities have also been used to confirm the hydrolysis. 12 references.

Studies in the fundamental processes of textile printing. Part 6. The transfer of disperse and water-soluble dyes to nylon during steaming

E. H. Daruwalla and H. A. Turner. *J. Soc. Dyers Colourists 69:* 440-448 (November, 1953).

The work reported in Part 5 of this series (July 1953, p. 240) has been extended to include a study of the transfer of disperse, soluble acetate-rayon, and acid dyes to nylon. In general, there is a close resemblance between the dyeing behavior of each class of dye and the corresponding transfer behavior during steaming. This is demonstrated by a comparison of the present experimental results with those which have been obtained in quantitative studies of nylon dyeing by other workers. 29 references.

Tips on dyeing Orlon knit goods

Textile Ind. 118: 124 (January, 1954).

Wool in the Standfast machine

Dyer 110: 721-722 (November 13, 1953).

Certain wool dyes were applied continuously to wool by padding and passage through a molten metal bath at 95°C. Successful results were obtained with monosulfated dyes combined with Lissapol N, a non-ionic detergent.

SPECIAL FINISHING F

Embossing of woven fabrics

Hans Ploenes. *Melliand Textilber. (English ed.) 34, No. 2:* 188-192 (1953).

The author discusses present methods and future developments in textile embossing.

Finishes for cellulosic textiles giving permanent protection against microbiological attack—a survey of the literature

Mary Hamlin. *J. Textile Inst. 44:* P745-P753 (November, 1953).

Also in *Shirley Institute Memoirs.* See abstract *Textile Technology Digest 10:* 1395 (September, 1953).

Fluorescent whitening agents

J. A. Somers. *Brit. Rayon & Silk J. 30:* 62-63 (December, 1953).

Properties and chemical activity of a number of optical bleaching agents.

Modification of cellulose by chemical means

Arthur R. Wachter. *Papers Am. Assoc. Textile Technol. 8:* 135-145 (June, 1953).

Chemical stabilization of rayon with Aquex, Avcoset or X-2 for shrink resistance and longer life.

Mothproofing agent and material containing the same

Ida Marie Rasmussen and Edward F. Rogers (to Merck & Co., Inc.). USP 2 654 677, October 6, 1953.

Bis (p-bromo-benzene-sulfonyl) methylene diamine.

New Turbo yarn setter

Turbo Machine Co. *Daily News Record No. 6:* 29 (January 11, 1954).

A new fabric or yarn setting and processing machine for quicker and more effective penetration. The machine operates on alternate cycles of vacuum and steam pressures.

Shrinkage method for knitted fabrics

John Hamilton and Arthur A. Meder, Jr. (to Proctor & Schwartz, Inc.). USP 2 661 520, December 8, 1953.

This method treats wet or moist stretched knitted fabrics by mechanically collapsing the distorted stitches so as to condense and reduce the fabric, drying the fabric at the same time, and calendering it to finish and expand it to its normal size.

Silicones and textile fibre applications. Part 2.

D. C. R. Miller. *Can. Textile J. 71:* 61-65 (January 15, 1954).

The uses of silicones in water repellent and waterproofing treatments. Silastic 131-coated fabrics are described.

Textile finishing developments. Part 1. Influence of the newer man-made fibres

Textile Wkly. 52: 1980-1986 (December 25, 1953).

A review which includes a number of references to the literature.

[1495]

Textile finishing range for synthetic resin treatments with new type curing machine

Melliand Textilber. (English ed.) 34, No. 2: 194-196 (1953).

A new textile finishing range for synthetic resin treatments is described. Claims are made that high production can be achieved completely independently of the temperature and duration of curing and in minimum space.

Treatment of textiles and N-halogenated amine-aldehyde agents therefor

Oscar P. Cohen and Elmer H. Rossin (to Monsanto Chemical Company). USP 2 654 720, October 6, 1953).

A finishing composition for imparting to textiles dimensional security and crease resistance comprises aqueous solutions of water-soluble N-halogenated melamine-aldehyde and urea-aldehyde condensation products.

TESTING AND MEASUREMENT G

ASTM STANDARDS ON TEXTILE MATERIALS (WITH RELATED INFORMATION). American Society for Testing Materials. Phila., 1953. 696 p. $5.25.

This 1953 compilation brings together ASTM specifications, test methods, and tolerances. Groups of standards cover fibers, fabrics, yarns, threads and cordage, as well as identification, qualitative, and quantitative analysis; and resistance to insect pests and microorganisms. General test methods cover testing machines, humidity, and interlaboratory testing. New tentative methods of test are included for: average fiber diameter of wool tops by porous plug tester; alkali-solubility of wool; relaxation and felting shrinkage in laundering of stabilized knit wool fabrics; tensile strength of wool fiber bundles; yarns containing wool; recovery of textile fabrics from creasing, using the vertical strip apparatus; maturity of cotton fibers (random sample-sodium hydroxide swelling method); cross-sectional characteristics of cotton fibers; strength of cotton fibers (flat bundle method); and number of neps in cotton fibers.

About the position of the fibres in a yarn

W. Frenzel. *Faserforsch. u. Textiltech. 4, No.* 9: 363-371 (1953); *in German.*

Results of a study of fiber distribution in various yarns are described. Long summary in *Brit. Rayon & Silk J. 30:* 70 (December, 1953).

[1496]

Constant rate of deformation type of textile tester

K. Ishikawa and W. Ishibashi. *J. Soc. Textile Cellulose Ind., Japan, 9, No. 6:* 298-302 (1953); *in Japanese with English summary.* Through *Brit. Cotton Ind. Research Assoc. 33:* 790 (December 15, 1953).

A precision instrument has been constructed with a magnetostriction gauge for the measurement of stress-strain-time properties of textile materials. The gauge action is based on the magnetic properties of ferromagnetic materials affected by the torsional stress. The instrument essentially consists of a constant speed device, magnetostriction type transducer, amplifier, voltage molizers, and valve voltmeter. The mechanical motion and inertia on the indicating system are very small. The output of the transducer is strictly linear with load and is sufficient to be put into the valve voltmeter with one-stage amplification. The application of this type of transducer for textile measurements (tensile testing of filaments and yarns, compressional measurement of fibers and fabrics, and torsional measurement of fabrics) is described.

Determination of fibre length distribution by measuring individual fibres

H. L. Roder. *Enka Breda Rayon Rev. (English ed.) No. 6:* 32-38 (November, 1953).

A method for determining the distribution of fiber lengths by measuring individual fibers is explained in detail. The auxiliary equipment specially developed for this method and the evaluation of the results are discussed.

Determination of the fatty matter in wool by extraction with diethyl ether

F. F. Elsworth and J. Barritt. *J. Textile Inst. 44:* P754-P759 (November, 1953).

The primary object of this work was to investigate the effect of the sample size in relation to the capacity of the Soxhlet barrel. It was found that the smaller samples gradually packed down in the Soxhlet barrel during the course of the extraction so that the wool did not fully occupy the available space. The results indicate that the size of the sample, and hence the nominal packing ratio, has no effect on the amount of fatty matter extracted from both dry-combed and oil-combed top. It would thus appear to be unnecessary to specify one sample weight but only the maximum sample weight permissible for a particular size of barrel and a minimum ratio of 10:1 for solvent to wool is suggested.

[1497]

Development of the geometric grey scales for fastness assessment

Fastness Tests Co-ordinating Committee. *J. Soc. Dyers Colourists 69:* 404-409 (November, 1953).

The methods which have been used since 1914 for assessing the results of fastness tests are described in detail. The most recent method is to use grey scales for this purpose, and scales equal in spacing are now being distributed by both E. C. E. and the Society of Dyers and Colourists. This method may well become standard all over the world. 17 references.

Effect of measurement error on chemical process control

Carl A. Bennett (General Electric Company, Hanford, Wash.). *Ind. Quality Control 10:* 17-20 (January, 1954).

Statistical evaluations of measurement errors, product variability and observed results are presented, which apply as equally to textiles as to chemical process control.

Estimation of the intensity of adhesion of rayon tire cord to rubber: H-test

A. van Gijzen. *Enka Breda Rayon Rev. (English ed.) No. 6:* 46-49 (November, 1953).

The useful life of a motor tire depends to a large extent on the adhesive capacity of the incorporated tire cord. The H-test was designed to effectively measure the force required to pull the cord out of the rubber. This test procedure is discussed in detail.

Handbook of twisting. Part 3

Neal Truslow (United States Rubber Co., Winnsboro, S. C.). *Textile Bull. 79:* 63-67 (December, 1953).

Testing and measurement of twist.

Investigation of yarn structure with the Uster apparatus

K. Schlien. *Melliand Textilber. 34:* 1061-1064 (November, 1953) ; *in German.*

With the aid of a weight and strength diagram, the correct method of working with the Uster apparatus is explained. Also the correlation between count number fluctuation and distribution of the twist in the yarn, and between Uster unevenness and scattering of the tearing values is investigated. Finally, it has been found that spun rayon yarn breaks almost invariably at its thinnest part, whereas cotton yarn is often abraded at a thicker part.

[1498]

Measurement of pH

T. Green. *Textile Mfr. 79:* 620-623 (December, 1953).

Methods of pH measurement are described and its use is illustrated in azoic coupling baths, hypochlorite bleaching of cotton, and laundry washing liquors.

Measurement of the birefringence of textile fibres

H. de Vries. *Enka Breda Rayon Rev. 7:* 173-179 (November, 1953) ; *in Dutch.*

After a discussion of the occurrence of birefringence in fibers, a brief description is given of the principle of the measurement and its application to two known microscopic measuring methods. 7 references.

Measurements of the humidity of the air

C. G. Booy. *Enka Breda Rayon Rev. 7:* 180-185 (November, 1953) ; *in Dutch.*

The properties of hair hygrometers and their response to humidity variations are discussed. At the same time the author deals with the influence of various process conditions on the operation of these instruments. A number of directions for use and maintenance are given.

Measurements of the humidity of air. Part 2

C. G. Booy. *Enka Breda Rayon Rev. 7:* 227-231 (December, 1953) ; *in Dutch.*

In this article the psychrometric chart is discussed in a popular way. This chart is a very important and simple means for determining the air-conditions from observations with a psychrometer.

Method and means for predetermining the appearance of fabricated articles

Ignatius C. Savadelis (to Deering Milliken Research Trust). USP 2 654 288, October 6, 1953.

A method for obtaining a visual representation of a fabric to be woven with two filling yarns by electronically measuring the diameter of the yarns and graphically portraying these measurements in spaced bands.

Methods of fibre identification

H. Sieber. *Dyer 110:* 901-907 (December 11, 1953).

The old basic methods of identification are reviewed and some new simple and practical methods suggested. The use of the Zillo-Test-S, a

commercial kit for the identification of synthetic fibers, is described.

Methods of investigation for textile materials. The performance of the skein-strength measurements on spun yarns

J. Onderstal. *Enka Breda Rayon Rev. 7:* 187-193 (November, 1953); *in Dutch.*

Conventional equipment for determining yarn strength is discussed in detail. Statistical evaluation of results in terms of conventional average, range, coefficient of variation and probability limits for sampling error are shown.

Nep count methods vary

Am. Textile Reptr. 67: 11-12 (December 31, 1953).

Discussion at Southern Textile Association meeting of nep counting methods and frequency of checking in mills.

New formula for cotton-yarn strength uses six properties

John Duerst (Coats & Clark, Inc.). *Textile World 104:* 108-109 (January, 1954).

Fiber strength, number of fibers, twist, staple length, fineness, and specific gravity are used in this tentative formula to predict skein strength.

On the surface friction of fibers

S. Ichino and H. Goto. *J. Soc. Textile Cellulose Ind., Japan, 9, No. 2:* 78-81 (1953); *in Japanese with English summary.* Through *Brit. Cotton Ind. Research Assoc. 33:* 791 (December 15, 1953).

In processing, especially in spinning, changes occur in the relative position of the fibers in the yarn. The authors consider these changes to be due essentially to surface friction of the fibers. A method is described for calculating the coefficient of surface friction, by measuring the force needed to pull a single fiber from a bundle bound by a rubber band that applies a certain uniform pressure to the bundle.

The picture of optimum yarn uniformity. Part 2

Helmut Kob. *Textil-Praxis 8:* 1015-1019 (December, 1953); *in German.*

A statistical evaluation of expected yarn evenness from the following viewpoints: uniformity of fibers in their relation to yarn evenness, the optimum variance-length curve, causes of random variation in drafting waves, effect of measuring plates (on Uster tester), and formulas for calculating expected "limit of variation" for the

components of within-length, between-length and overall variation coefficients. 9 references.

Principles of sampling in the chemical field

Martin A. Brumbaugh (Bristol Laboratories, Syracuse, N. Y.). *Ind. Quality Control 10:* 6-14 (January, 1954).

Statistical methods are demonstrated in their application to evaluating variations arising in the laboratory, in sampling and in processing. Formulas are given for measuring variances between lots, between samples and between replicates, and for determining proper sample sizes. Formulas are given so as to include the economic factors of cost of testing in arriving at the optimum testing schedules. Although the illustrations are taken from the chemical field, they apply equally to fiber testing, textile processing, and fabric converting.

Quality control through statistical methods. Part 4. Process analysis

Norbert L. Enrick. *Modern Textiles Mag. 35:* 49-54 (January, 1954).

Using actual examples from several spinning mills, a statistical tool is developed for analyzing and tracing variations from process to process, beginning with the pickers and ending with yarn. Formulas are given for calculating the effects of doublings and drafts upon expected variations, and these are then compared against actual variations. An "action chart" shows typical patterns of variation, their likely cause and required corrective action.

Remarks on the significance of the stress-strain curves of yarns

H. de Vries. *Enka Breda Rayon Rev. (English ed.) No. 6:* 39-45 (November, 1953).

On the basis of some definitions, three types of load-elongation curves are presented which might occur with materials of various elastic properties. The influence of the rate of deformation is further illustrated by curves determined on viscose rayon. It is pointed out that for the time being a load-elongation curve cannot indicate the suitability of a yarn for a specific purpose: the best it can do is to give a picture of its strength and extensibility. 16 references.

Some uses of statistics in the planning of experiments

Charles A. Bicking (Office, Chief of Ordnance, Washington, D. C.). *Ind. Quality Control 10:* 20-24 (January, 1954).

The modern methods of planning and evaluating experiments by analysis of variance and the so-called "latin-square" design are compared with the more cumbersome non-statistical techniques. An example is given from the testing of a product for improving crease resistance. 6 references.

Studies on the hardness of fibres. Part 3. A method of measuring fibre-to-fibre friction

H. Takagi. *J. Soc. Textile Cellulose Ind., Japan, 9, No. 6:* 288-291 (1953); *in Japanese with English summary.* Through *Brit. Cotton Ind. Research Assoc. 33:* 791 (December 15, 1953).

An apparatus was devised for measuring the fiber-to-fiber friction of yarns and for calculating the frictional coefficient. An almost constant coefficient is obtained for one yarn, whatever the load, or the twist, or the diameter, of the fiber. Variations are not large between measurements. Short fibers can be measured easily by this method.

Tests for colorfastness of textiles under consideration in the International Organization for Standardization

William D. Appel (American Standards Association). *Am. Dyestuff Reptr. 42:* P871-P887 (December 21, 1953).

Tests no. 31-58 are presented. These tests are also given in *J. Soc. Dyers Colourists 69:* 409-429 (November, 1953).

Uses of microscopy in textile dyeing and finishing

G. G. Taylor and J. C. Brown. *J. Soc. Dyers Colourists 69:* 396-403 (November, 1953).

A review of the application of microscopy to the study of textile fibers. A brief exposition is given of the best methods of mounting and examining various fibers, and the application of the techniques of polarized light, staining, and microtomy is discussed. Recent advances in the histology of protein fibers due to both visual and electron microscopy; the more useful microscopic tests for protein fiber damage; the structure of the natural cellulosic fibers cotton and linen; and the microscopical detection of chemical modifications to cellulose are discussed. An outline is given of some staining experiments which have a bearing on the structure of regenerated cellulosic fibers. 57 references.

Clothing and Fabrics G 1

An analysis of the stresses in some approximations to a simple knitted loop of monofilament yarn

A. Glaskin and G. A. V. Leaf. *J. Textile Inst. 44:* T534-T543 (November, 1953).

As a part of a general study of the structure of knitted fabrics at present in progress at the Hosiery and Allied Trades Research Association a mathematical study is made of the stresses imposed upon a monofilament yarn in an idealized loop formation, using simple elastic theory under certain simple loading conditions. 4 references.

Apparatus for testing the fastness of dyeings on wetted textiles

Willy Thommen (to J. R. Geigy, Switzerland). USP 2 660 055, November 24, 1953.

An apparatus for testing the fastness of dyed textile samples by abrading surfaces of the samples under regulable pressure in a heater bath.

Causes of seaming damage: needle heating

W. S. Sondhelm. *J. Textile Inst. 44:* T580-T585 (November, 1953).

Tests have shown that the temperature of the needle may rise by as much as 400°F in five seconds when certain cloths are sewn. When such a rapid rise in temperature occurs, the needle is blunted quickly and tends to damage the cloth. A method for determining the temperature of the needle by means of heat-sensitive compounds applied to the groove of the sewing needle is described.

Development of a pilling test for apparel fabrics

Jack J. Press. *Papers Am. Assoc. Textile Technol. 9:* 19-33 (December, 1953).

See abstract in *Textile Technology Digest 10:* 1400 (September, 1953).

Effect of adding Enkalon fibre to wool in yarns for socks

E. Heukers. *Enka Breda Rayon Rev. (English ed.) No. 6:* 84-85 (November, 1953).

A scientific investigation was undertaken to determine the effect of polyamide fibers on the wearing properties of men's socks. Results showed that the addition of 25% of Enkalon fiber to wool significantly improved the wear of the socks made from this yarn as compared with socks composed entirely of wool.

Formation of streaks in dyeing fabrics made of fully synthetic fibres

W. Ender. *Textil-Praxis (English ed.) No. 4:* 184-189 (November, 1953).

Synthetic fibers exhibit varying degrees of dye affinity for the same dyestuff. The causes for these differences and the operating processes for overcoming the tendency of some fabrics to form streaks in dyeing are discussed.

Introduction to textile calculations. Part 7

N. C. Gee. *Textile Mfr. 79:* 613-618 (December, 1953).

The techniques and calculations involved in an analysis of the more common woolen and worsted fabrics from small patterns are described.

Method of analyzing tricot fabrics by "deknitting"

Richard W. Nelson. *Papers Am. Assoc. Textile Technol. 8:* 146-148 (June, 1953).

Objectionable results in dyeing and their elimination

W. Dahlhaus. *Textil-Praxis (English ed.) No. 4:* 165-171 (November, 1953).

The following items are discussed: (1) light and dark long stripes in ladies' coat material, (2) stripes in the direction of the warp, (3) dark places in fine worsted yarn material, (4) light spots in gabardine cloth, (5) yellowed light-grey piece goods, (6) faults caused by steaming, (7) light spots caused by volatile ammonia, (8) felted woolen tricot, (9) loss of resistance of wool tricot.

Recent investigations on glass-fibre fabrics

W. Bobeth. *Faserforsch. u. Textiltech. 4:* 187-199 (May, 1953). Through *J. Soc. Dyers Colourists 69:* 469 (November, 1953).

Work on the effects of various agencies on glass fibers is reviewed (16 references), and investigations devoted to the verification and extension of this work on material of current production are described. Tables are given showing the changes in wet and dry strength produced by treatments with various agents; they reveal the considerable increases in wet strength produced by certain cationic agents and resins. Other tables show the effects of various treatments on the loss of strength produced by steaming, weathering, and rot-testing (burial). The effect of heat and the suitability of glass fibers for the reinforcement of concrete are among other subjects discussed.

Instruments and Instrumentation G 2

Automatic drying of yarn and cloth

Leo Walter. *Melliand Textilber. (English ed.) 34, No. 2:* 200 (1953).

The development of some automatic control instruments and their practical uses in textile processing are described.

Damping measurements on low frequency transverse vibrations of fibres

P. L. Kirby. *J. Sci. Instrum. 30, No. 9:* 339-340 (1953). Through *Brit. Cotton Ind. Research Assoc. 33:* 747 (November 30, 1953).

A simple optical device is described for measuring the damping capacity of freely-vibrating specimens (thin rods, filaments, fibers, etc.) which are clamped at one end. The amplitude of vibration of the free end must be at least 5 mm and the maximum frequency 5 to 10 c/s. The apparatus has been used on glass fibers.

New German testing device for the torsional strength of fibres and yarns

Fibres 14: 427 (December, 1953).

Long summary of a paper by W. Frenzel and H. Perner in the January 1953 issue of the German periodical *Faserforschung und Textiltechnik.* The device is diagrammed and described.

Observations on some commercial colour-matching lamps

J. C. Guthrie and P. H. Oliver. *J. Soc. Dyers Colourists 69:* 430-435 (November, 1953).

Four commercial color-matching lamps of the fluorescent-tube type have been considered. Differences exist between the lamps and Illuminant C, and also lesser differences between the lamps themselves. Samples vary in hue from lamp to lamp, but no serious discrepancies have been found in color matching; i.e. a match under one lamp is usually a match under one of the others, since in a large number of cases the dyeing has been found to have a similar spectral curve to the pattern. Daylight is very variable, and it is doubtful whether a single standard color-matching lamp would be advisable. 26 references.

Quality control in textile manufacturing

H. Stein. *Textil-Praxis (English ed.) No. 4:* 145-152 (November, 1953).

Measuring devices have been developed for examining test specimens over considerable lengths and recording unevenness. The following devices, with accompanying photographs, are described: (1) Stein-Ingolstadt roving tester, (2) high-frequency uniformity measuring devices, (3) devices for testing evenness at the processing machine, (4) a strength tester with electrical

gauging device for measuring staple fiber drag, (5) Frenzel-Hahn testing machine which measures load-elongation on yarn and can be adapted for sliver and roving.

Static electrification of textile yarns

V. E. Gonsalves and B. J. van Dongeren. *Enka Breda Rayon Rev. (English ed.) No. 6:* 8-21 (November, 1953).

This article mentions some methods used for measuring static electrification and describes the principles underlying these measurements. The valve voltmeter with electrometer triode developed by the Physical Laboratory of N. V. Research is described. Diagrams for assembling apparatus are given and seven different experiments on rayon and nylon yarns are described. 8 references.

Temperature control in scouring

Leo Walter. *Dyer 110:* 825-829 (November 27, 1953).

Thermostat systems for various types of scouring equipment.

TEXTILE MILLS H

Alabama carders talk about evenness control

Alabama Textile Operating Executives. *Textile World 104:* 123-125, 182-185 (January, 1954).

Drive requirements for cotton machinery

Zoltan S. Szaloki (Whitin Machine Works). *Textile Age 18:* 32-35 (January, 1954).

Drives for loom rollers in the textile industry

Herman Philippi. *Melliand Textilber. (English ed.) 34, No. 2:* 162-168 (1953).

Winding machines facilitate the handling of woven and knitted goods as they pass through washing, dyeing and stretching. In this article the theoretical aspects of the proper drive for the winders are discussed.

Generation of direct current

Textile Mfr. 79: 639-642 (December, 1953)

Field system, armature, function of commutator, connections of armature coils, parallel circuits in armatures, and wave wound armatures, etc., are considered.

Instrumentation and process control in the jute industry

B. L. Banerjee (Indian Jute Mills Assoc. Res. Institute). *Fibres 14:* 423-425 (December, 1953).

Pictorial check-list for elevator maintenance

Textile Ind. 118: 111-118 (January, 1954).

Process and product control in the AKU-pilot spinning plant

A. Visser. *Enka Breda Rayon Rev. 7:* 209-212 (November, 1953); *in Dutch.*

This is a continuation of a preceding article on process control. In the present article, statistical methods in the control of product quality are discussed, with particular reference to yarn number, strength and moisture content.

Progressive material handling

Peter E. Glaser. *Modern Materials Handling 4:* 109-112 (January, 1954).

Examples of an automatic lap handling system and bobbin handling system are given, illustrated with mill photographs of actual installations.

Quality control in textile processing. Part 1

A. Webster. *Textile Mfr. 79:* 629-631 (December, 1953).

It is suggested that two of the reasons for the concentration of cellulose acetate plants in a few countries with highly-skilled technologists and chemists are (1) the rigid quality control necessary and (2) the high degree of spinning efficiency, enabling a large proportion of the reagents to be recovered.

The ratio delay technique

L. H. C. Tippett. *Time & Motion Study 2, No. 5:* 10-19 (1953). Through *J. Textile Inst. 44:* A520 (July, 1953).

This article is a description of the "snap-reading" method adopted by the Shirley Institute in making mill surveys of machinery efficiencies and of the work of the operatives. It has now come to be fairly widely used in a number of industries and is becoming established as one of the techniques used by time-study engineers. The article deals with the practical points that arise in applying the method, especially with the avoidance or minimization of errors in the results.

TEXTILE WORLD BUYERS GUIDE AND REFERENCE DATA ISSUE, MID-NOVEMBER, 1953. N. Y., McGraw-Hill Publishing Co. 50 cents.

The Textile World Buyers Guide, previously issued as a separate reference volume, is now published as an extra issue of the magazine. Reference data are included on fiber processing and finishing, mill engineering, textile associations and schools, research organizations, and

special textile exhibitions. The Buyers' Guide covers machinery, equipment and supplies, chemicals and dyestuffs, and a list classified by subject of companies supplying products and services to the textile industry.

Treatment of waste water in the viscose fibre industry—the cleansing processes

T. Kleinert and W. Wincor. *Melliand Textilber. 34:* 1166-1170 (December, 1953); *in German.*

The author discusses the waste water treatments carried out in the clarification plants of the viscose fiber industry, and their dependence upon various influences. In acidic waste water mixtures, one must distinguish between flocculation and sedimentation processes. The most important conditions for a rapid flocculation and sedimentation in the operation of industrial clarification plants are discussed. 16 references.

Waste carousel

Textile Ind. 118: 98-103 (January, 1954).

Use of a rotating waste bin at Scottdale Mills reduces labor cost, conserves floor space, and obtains better waste separation. A diagram and photographs are given.

The working of modern fibrous materials

Fibres 14: 411-413 (December, 1953).

Suggestions are given for the proper machining and cutting of fibrous and fibro-plastic materials.

Workloads, machine assignments, machine interference and performance level: illustrated from an example in weaving

Paul Bergmann. *Textil-Praxis 8:* 1049-1053 (December, 1953); *in German.*

CHEMISTRY AND PHYSICS OF TEXTILE MATERIALS I

Chemistry of chelation in textile processing

A. J. Gard (Bersworth Chemical Co., Framingham, Mass.). *Am. Dyestuff Reptr. 42:* P867-P870 (December 21, 1953).

The advent of chelation with ethylenediaminetetra-acetate (EDTA) sodium salts has brought some reasonable order to the use of complexing agents in textile processing. The rates of reaction, stability and versatility of EDTA are proving its economy against condensed phosphates. However, the use of EDTA in combination with certain phosphates gives better money value because of synergism. A new dyeing technique

employing the restraining action of chelating agents to promote the leveling of mordants has not yet been fully explored. The effect of chelation on redox potentials is another interesting development. A discussion of the applications of EDTA in continuous bleaching, dyeing and soaping off processes is included. 5 references.

Effect of urea-formaldehyde resins on the lightfastness of direct dyes

W. G. Parks. (Amer. Assoc. Textile Chemists and Colorists. Rhode Island Section). *Am. Dyestuff Reptr. 43:* P6-P13 (January 4, 1954).

This investigation was undertaken to determine the factors which cause changes in the light fastness of direct dyes when dyeings are aftertreated with urea-formaldehyde resins. The molecular structures of many direct dyes were studied. There were indications that, when certain groups in the molecule occupied particular positions, degradation of light fastness resulted after resin treatment. This study revealed that, by careful selection of catalyst and by controlling the molar ratio of urea to formaldehyde, the degrading effect of the resin on those dyes of which the light fastness is impaired should be materially modified. 15 references.

Electrostatic eliminators in the textile industry

P. S. H. Henry (British Cotton Industry Research Association). *Brit. J. Applied Physics. Suppl. No. 2:* S78-S83 (1953).

The occurrence of static electricity in the textile industry, and the ways in which it interferes with production, are briefly described. The general principles of its dissipation are discussed. with special emphasis on the time factor. Brief descriptions are given of the various types of electrostatic eliminator, both electric and radioactive, used in the textile industry, with references to the commercial apparatus. 9 references are given. This paper was presented at a symposium held by the Institute of Physics in London in March 1953. The conference proceedings are published in full in this supplement under the title *Static Electrification.* They are grouped under the main headings: general principles, useful applications, electrostatic machines, and harmful static electrification.

Fibre-forming polymers from hydrazine. Part 2

R. W. Moncrieff. *Textile Mfr. 79:* 635-638, 642 (December, 1953).

The development and properties of the polyaminotriazoles. 13 patent references.